

Electron Configuration Practice Worksheet

In the space below, write the full (unabbreviated) electron configurations of the following elements:

- 1) sodium _____
- 2) iron _____
- 3) bromine _____
- 4) barium _____
- 5) neptunium _____

In the space below, write the Noble Gas (abbreviated) electron configurations of the following elements:

- 6) cobalt _____
- 7) silver _____
- 8) tellurium _____
- 9) radium _____
- 10) lawrencium _____

Determine what elements are denoted by the following electron configurations:

- 11) $1s^2 2s^2 2p^6 3s^2 3p^4$ _____
- 12) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^1$ _____
- 13) $[\text{Kr}] 5s^2 4d^{10} 5p^3$ _____
- 14) $[\text{Xe}] 6s^2 4f^{14} 5d^6$ _____
- 15) $[\text{Rn}] 7s^2 5f^{11}$ _____

Determine which of the following electron configurations are not valid: State which rule has been violated.

- 16) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 4d^{10} 4p^5$ _____
- 17) $1s^2 2s^2 2p^6 3s^3 3d^5$ _____
- 18) $[\text{Ra}] 7s^2 5f^8$ _____
- 19) $[\text{Kr}] 5s^2 4d^{10} 5p^5$ _____
- 20) $[\text{Xe}]$ _____

Where are the Electrons?

Write the full electron configuration, short-hand electron configuration, and fill in the orbital diagrams, for the following elements.

1. Helium _____

1s

2. Nitrogen _____

1s

2s

2p

3s

3. Oxygen _____

1s

2s

2p

3s

4. Chlorine _____

1s

2s

2p

3s

3p

5. Sodium _____

1s

2s

2p

3s

3p

6. Magnesium _____

1s

2s

2p

3s

3p